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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,299	09/28/2001	Enio L. Carpi	01 P 14622 US (8055-112)	4736

7590 07/17/2003
Infineon Technologies North America Corp.
c/o Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
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EXAMINER

STOCK JR, GORDON J

ART UNIT PAPER NUMBER

2877

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/967,299

Applicant(s)

CARPI ET AL.

Examiner

Gordon J Stock

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. **Claims 1-10** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 7.

Specification

2. The specification is objected to for the following: on page 14, line 14, the phrase, 'appreciated that the with,' should read --appreciated that with--. Correction is required.

Claim Objections

3. **Claim 11** is objected to for the following: the term, "the alignment mark," lacks antecedent basis. In addition, "0_JT" should read --0 to JT--. Correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 11 and 14** are rejected under 35 U.S.C. 102(b) as being anticipated by **Trutna, Jr. (4,631,416)**.

As for **claims 11 and 14**, Trutna discloses the following: an illuminating tool for irradiating the mask so as to create a bright spot, intensity of zeroth output order is at an extremum, thereon by a ninety degree conflict; a detection tool; alignment means (Fig. 3; Fig.

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10b; col. 7, lines 15-45; col. 13, lines 50-67; col. 14, lines 1-40); the alignment mark is in a form of a box structure (Fig. 10a).

6. **Claims 11, 12, and 16** are rejected under 35 U.S.C. 102(b) as being unpatentable over **Hopewell et al. (5,124,927)**.

As for **claims 11, 12, and 16**, Hopewell in a latent image control of lithography tools discloses: an illumination tool for irradiating the mask to create a bright spot by a ninety degree phase shift; a detection tool; alignment means (col. 5, lines 5-67; col. 6, lines 1-60; Figs. 1a-1c; Fig. 2; Fig. 3; Fig. 4b; col. 7, lines 5-40); wherein the alignment mark is in a form of a frame (Fig. 1c); the illumination tool generates the alignment mark (col. 5, lines 15-30).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 13 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hopewell et al. (5,124,927)** in view of **Adams (5,968,693)**.

As for **claims 13 and 17**, see **claims 12 and 16** above. Hopewell is silent concerning film stack variation. However, Adams in a lithography tool adjustment method teaches that film stack topography causes effects in measurements. Therefore, it would be obvious to one skilled in the art to have the box structure created to minimize film stack variations, for film stacks causes effects in measurements.

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9. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Trutna, Jr. (4,631,416)** in view of **Adams (5,968,693)**.

As for **claim 15**, see **claim 14** above. Trutna is silent concerning film stack variation. However, Adams in a lithography tool adjustment method teaches that film stack topography causes effects in measurements. Therefore, it would be obvious to one skilled in the art to have the box structure created to minimize film stack variations, for film stacks causes effects in measurements.

10. **Claim 18** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Trutna, Jr. (4,631,416)** in view of **Feldman et al. (4,037,969)**.

As for **claim 18**, see **claim 11** above. However, Trutna is silent concerning the illumination tool generating the alignment mark. Feldman in an alignment system teaches that it is well known in the art to have the illumination tool produce the alignment mark (col. 4, lines 10-20). Therefore, it would be obvious to one skilled in the art at the time the invention was made to have the illumination tool generate the alignment mark, for alignment marks are produced by illumination tools.

11. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Trutna, Jr. (4,631,416)** in view of **Feldman et al. (4,037,969)** and further in view of **Adams (5,968,693)**.

As for **claim 19**, see **claim 18** above. Trutna is silent concerning film stack variation. However, Adams in a lithography tool adjustment method teaches that film stack topography causes effects in measurements. Therefore, it would be obvious to one skilled in the art to have the box structure created to minimize film stack variations, for film stacks causes effects in measurements.

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Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 5,026,166 to van der Werf

U.S. Patent 5,863,712 to Von Bunau et al.

U.S. Patent 6,309,800 to Okamoto

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 308-7722

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (703) 305-4787. The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gs

July 14, 2003



Zandra V. Smith
Primary Examiner
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